

STIC Search Report

STIC Database Tracking Number 141208

TO: Jose Dees

Location: JEF-8D59

12/28/2004 TC2800

Case Serial No.: 09/915,710

From: Jeff Harrison

Location: STIC-EIC2800

JEF-4B68

Phone: 22511

Email: harrison, jeff

Search Notes

Re: 09/915,710 US 5,929,466

Attached are results of litigation searches in Lexis-Nexis, Courtlink, and Ouestel-Orbit databases.

No U.S. litigation was found.

If you'd like explanation or additional searching, let me know.

Respectfully,

Jeff

Jeff

Jeff Harrison Team Leader, STIC-EIC2800 JEF-4B68, 571-272-2511



Litigation involving patent 5,929,466

Click on the docket number to view the docket. Click on the above patent number to view the patent.

□ Docket □ □ Case Heading □ □ Date Filed □ □ Date Retrvd □

There are no cases involving this patent number.

Source: <u>Legal</u> > <u>Area of Law - By Topic</u> > <u>Patent Law</u> > <u>Patents</u> > <u>U.S. Patents</u> > <u>Utility Patents</u>

Terms: 5656832 or 5929466 or 5,656,832 or 5,929,466 (Edit Search)

874299 (08) 5929466 July 27, 1999

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5929466

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Link to Claims Section

July 27, 1999

Semiconductor device and method of fabricating the same

REISSUE: Reissue Application filed Jul, 27, 2001 (O.G. Dec. 18, 2001) Ex. Gp.: 2815; Re.

S.N. 09/915,710, (O.G. December 18, 2001)

INVENTOR: Ohba, Yasuo, Yokohama, JP; Hatano, Ako, Tokyo, JP

APPL-NO: 874299 (08)

FILED-DATE: June 13, 1997

GRANTED-DATE: July 27, 1999

PRIORITY: March 9, 1994 - 6038157, Japan (JP); January 6, 1995 - 7000704, Japan (JP)

ASSIGNEE-AT-ISSUE: Kabushiki Kaisha Toshiba, Kawasaki, JP

LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

PUB-TYPE: July 27, 1999 - Utility Patent having no previously published pre-grant

publication (A)

PUB-COUNTRY: United States (US)

REL-DATA:

Addition of Ser. No. 5656832

Addition of Ser. No. 400865, March 8, 1995

US-MAIN-CL: 257#103

US-ADDL-CL: 257#96, 257#97, 257#190, 257#E29.09, 257#E29.091, 257#E33.028

CL: 257

Litigation involving patent 5,656,832

Click on the docket number to view the docket. Click on the above patent number to view the patent.

Docket Case Heading Date Filed Date Retrvd

There are no cases involving this patent number.

Source: Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility Patents ;

Terms: 5656832 or 5929466 or 5,656,832 or 5,929,466 (Edit Search)

400865 (08) 5656832 August 12, 1997

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5656832

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Link to Claims Section

August 12, 1997

Semiconductor heterojunction device with ALN buffer layer of 3nm- 10nm average film thickness

INVENTOR: Ohba, Yasuo, Yokohama, JP; Hatano, Ako, Tokyo, JP

APPL-NO: 400865 (08)

FILED-DATE: March 8, 1995

GRANTED-DATE: August 12, 1997

PRIORITY: March 9, 1994 - 6038157, Japan (JP); January 6, 1995 - 7000704, Japan (JP)

ASSIGNEE-AT-ISSUE: Kabushiki Kaisha Toshiba, Kawasaki, JP

ASSIGNEE-AFTER-ISSUE: May 1, 1995 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA- CHO, SAIWAI-KU

KAWASAKI-SHI, JAPAN, Reel and Frame Number: 007444/0804

LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

PUB-TYPE: August 12, 1997 - Utility Patent having no previously published pre-grant

publication (A)

PUB-COUNTRY: United States (US)

US-MAIN-CL: 257#190

US-ADDL-CL: 257#96, 257#97, 257#103, 257#E29.091, 257#E33.028, 372#43, 372#50

CL: 257, 372

SEARCH-FLD: 257#96, 257#97, 257#103, 257#190, 372#43, 372#50

Litigation involving patent 5,909,040

Click on the docket number to view the docket. Click on the above patent number to view the patent.

Docket Case Heading Date Filed Date Retrvd

There are no cases involving this patent number.

Source: <u>Legal</u> > <u>Area of Law - By Topic</u> > <u>Patent Law</u> > <u>Patents</u> > <u>U.S. Patents</u> > <u>Utility Patents</u>

Terms: patno=5909040 (Edit Search)

866056 (08) 5909040 June 1, 1999

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5909040

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included in any flat rate packages.

Link to Claims Section

June 1, 1999

Semiconductor device including quaternary buffer layer with pinholes

INVENTOR: Ohba, Yasuo, Yokohama, JP; Hatano, Ako, Tokyo, JP

APPL-NO: 866056 (08)

FILED-DATE: May 30, 1997

GRANTED-DATE: June 1, 1999

PRIORITY: March 9, 1994 - 6038157, Japan (JP); January 6, 1995 - 7000704, Japan (JP)

ASSIGNEE-AT-ISSUE: Kabushiki Kaisha Toshiba, Kawasaki, JP

ASSIGNEE-AFTER-ISSUE: May 30, 1997 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA- CHO, SAIWAI-KU

KAWASAKI-SHI JAPAN, Reel and Frame Number: 008588/0395

LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

PUB-TYPE: June 1, 1999 - Utility Patent having no previously published pre-grant

publication (A)

PUB-COUNTRY: United States (US)

REL-DATA:

Addition of Ser. No. 5656832

Addition of Ser. No. 400865, March 8, 1995

US-MAIN-CL: 257#190

US-ADDL-CL: 257#13, 257#96, 257#97, 257#103, 257#E29.09, 257#E29.091,

257#E33.028, 372#44, 372#50

CL: 257, 372

No Documents Found!

No documents were found for your search (5656832 or 5929466 or 5,656,832 or 5,929,466). Click the "Edit Search" button below to try again. You may want to try one or more of the following:

- Check for spelling errors.
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$1/1 \ \ PLUSPAT - @QUESTEL-ORBIT - image$

PN - US5929466 A 19990727 [US5929466]

TI - (A) Semiconductor device and method of fabricating the same

PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)

PAO - Kabushiki Kaisha Toshiba, Kawasaki [JP]

IN - (A) HATANO AKO (JP); OHBA YASUO (JP)

AP - US87429997 19970613 [1997US-0874299]

FD - Cont. of US400865 19950308 [1995US-0400865]

Continuation of: US5656832

PR - US87429997 19970613 [1997US-0874299]

JP3815794 19940309 [1994JP-0038157]

JP70495 19950106 [1995JP-0000704]

US40086595 19950308 [1995US-0400865]

IC - (A) H01L-029/205 H01L-031/0304 H01L-033/00

EC - H01L-029/201

H01L-029/205

H01L-033/00C4D3C

H01L-033/00G3B2

H01S-005/323B4

ICO - T01S-005/02H2

T01S-005/042E

PCL - ORIGINAL (O): 257103000; CROSS-REFERENCE (X): 257E29090 257E29091 257E33028 257096000 257097000 257190000

DT - Corresponding document

CT - US5218216; US5247533; US5523589; US5578839; JP2-229476; JP4-297023; JP5-183189

STG - (A) United States patent

1/1 LGST - ©EPO

PN - US5929466 A 19990727 [US5929466]

AP - US87429997 19970613 [1997US-0874299]

ACT - 20011218 US/RF-A

REISSUE APPLICATION FILED

EFFECTIVE DATE: 20010727

UP - 2003-22

1/1 CRXX - ©CLAIMS/RRX

AN - 3176221

PN - 5,929,466 A 19990727 [US5929466]

PA - Toshiba Corp JP

PT - CE (Chemical Electrical)

ACT - 20010727 REISSUE REQUESTED

ISSUE DATE OF O.G.: 20011218

REISSUE REQUEST NUMBER: 09/915710

EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 2815

Reissue Patent Number:

UP - 2001-51

UACT - 2001-12-18

Patent Family Search Results

US5929466/PN Results: 5

PATENT FAMILY

#	Patent No.	Kind	Date	Applic.No.	Date
<u>1)</u>	JP07249795	Α	19950926	1994JP-0038157	19940309
	JP3325380	B2	20020917		
<u>2)</u>	JP08186332	Α	19960716	1995JP-0000704	19950106
	JP3244980	B2	20020107		
<u>3)</u>	US5,656832	Α	19970812	1995US-0400865	19950308
<u>4)</u>	US5909040	Α	19990601	1997US-0866056	19970530
<u>5)</u>	US5929466	Α	19990727	1997US-0874299	19970613
	Priority:				
	1994JP-0038157		19940309		
	1995JP-0000704		19950106		
	1995US-0400865		19950308		
	1997US-0866056		19970530		
	1997US-0874299		19970613		
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PN - 👼 JP7249795 A 19950926 [JP07249795]

STG - (A) Doc. Laid open to publ. Inspec.

TI - (A) SEMICONDUCTOR DEVICE

PA - (A) TOKYO SHIBAURA ELECTRIC CO

PA0 - (A) TOSHIBA CORP

IN - (A) OBA YASUO; HATANO GOKOU

IC - (A) H01L-033/00

PN2 - JP3325380 B2 20020917 [JP3325380]

STG2 - (B2) Grant. Pat. With A from 2500000 on

IC2 - (B2) H01L-033/00 H01S-005/323

AP - JP3815794 19940309 [1994JP-0038157]

PR - JP3815794 19940309 [1994JP-0038157]

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2/5 PLUSPAT - @QUESTEL-ORBIT - image

☐ JP8186332 A 19960716 [JP08186332] PN

STG (A) Doc. Laid open to publ. Inspec.

TI (A) MANUFACTURE OF SEMICONDUCTOR ELEMENT

PA (A) TOKYO SHIBAURA ELECTRIC CO

PA₀ (A) TOSHIBA CORP

IN (A) OBA YASUO; HATANO GOKOU

IC (A) H01L-021/205 H01L-033/00 H01S-003/18

PN₂ JP3244980 B2 20020107 [JP3244980]

STG2 -(B2) Grant. Pat. With A from 2500000 on

IC2 (B2) H01S-005/02

JP70495 19950106 [1995JP-0000704] AP

PR JP70495 19950106 [1995JP-0000704]

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3/5 PLUSPAT - @QUESTEL-ORBIT - image

PN 📆 US5656832 A 19970812 [US5656832]

STG (A) United States patent

TI (A) Semiconductor heterojunction device with ALN buffer layer of 3nm-10nm average film thickness

(A) TOKYO SHIBAURA ELECTRIC CO (JP) PA

Kabushiki Kaisha Toshiba, Kawasaki [JP] PA0

IN (A) HATANO AKO (JP); OHBA YASUO (JP)

(A) H01L-027/15 H01L-029/205 H01S-003/19 IC

AP US40086595 19950308 [1995US-0400865]

JP3815794 19940309 [1994JP-0038157] PR

JP70495 19950106 [1995JP-0000704] ·

H01L-029/205 EC

> H01L-033/00C4D3C H01L-033/00G3B2

H01S-005/323B4

ICO T01S-005/02H2

T01S-005/042E

ORIGINAL (O): 257190000; CROSS-REFERENCE (X): 257E29091 **PCL**

257E33028 257096000 257097000 257103000 372043000 372050000

DT Basic

1/1 LEGALI-©EPO

PN US5656832 A 19970812 [US5656832]

AP US40086595 19950308 [1995US-0400865]

ACT 19950501 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-

K; EFFECTIVE DATE: 19950405

19950501 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: OHBA, YASUO; EFFECTIVE DATE: 19950405

19950501 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: HATANO, AKO; EFFECTIVE DATE: 19950405

UP - 2003-22

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4/5 PLUSPAT - @QUESTEL-ORBIT - image

PN - 🛱 US5909040 A 19990601 [US5909040]

STG - (A) United States patent

TI - (A) Semiconductor device including quaternary buffer layer with pinholes

PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)

PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]

IN - (A) HATANO AKO (JP); OHBA YASUO (JP)

IC - (A) H01L-031/0304 H01L-033/00

AP - US86605697 19970530 [1997US-0866056]

PR - US86605697 19970530 [1997US-0866056]

JP3815794 19940309 [1994JP-0038157] JP70495 19950106 [1995JP-0000704]

US40086595 19950308 [1995US-0400865]

EC - H01L-029/201

H01L-029/205

H01L-033/00C4D3C

H01L-033/00G3B2

PCL - ORIGINAL (O): 257190000; CROSS-REFERENCE (X): 257E29090

257E29091 257E33028 257013000 257096000 257097000 257103000

372044000 372050000

DT - Basic

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PN - US5909040 A 19990601 [US5909040]

AP - US86605697 19970530 [1997US-0866056]

ACT

19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-

K; EFFECTIVE DATE: 19970521

19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: OHBA, YASUO; EFFECTIVE DATE: 19970521

19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST OWNER: HATANO, AKO; EFFECTIVE DATE: 19970521

UP - 2003-22

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PN - 📆 US5929466 A 19990727 [US5929466]

STG - (A) United States patent

TI - (A) Semiconductor device and method of fabricating the same

PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)

PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]

IN - (A) HATANO AKO (JP); OHBA YASUO (JP)

IC - (A) H01L-029/205 H01L-031/0304 H01L-033/00

AP - US87429997 19970613 [1997US-0874299]

PR - US87429997 19970613 [1997US-0874299]

JP3815794 19940309 [1994JP-0038157] JP70495 19950106 [1995JP-0000704]

JP /0493 19930100 [1993JF-0000/04]

US40086595 19950308 [1995US-0400865]

EC - H01L-029/201

H01L-029/205

H01L-033/00C4D3C

H01L-033/00G3B2

H01S-005/323B4

ICO - T01S-005/02H2

T01S-005/042E

PCL - ORIGINAL (O): 257103000; CROSS-REFERENCE (X): 257E29090

257E29091 257E33028 257096000 257097000 257190000

DT - Corresponding document

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PN - US5929466 A 19990727 [US5929466]

AP - US87429997 19970613 [1997US-0874299]

ACT - 20011218 US/RF-A

REISSUE APPLICATION FILED

EFFECTIVE DATE: 20010727

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PN - 🛱 US5656832 A 19970812 [US5656832]

TI - (A) Semiconductor heterojunction device with ALN buffer layer of 3nm-10nm average film thickness

PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)

PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]

IN - (A) HATANO AKO (JP); OHBA YASUO (JP)

AP - US40086595 19950308 [1995US-0400865]

PR - JP3815794 19940309 [1994JP-0038157] JP70495 19950106 [1995JP-0000704]

IC - (A) H01L-027/15 H01L-029/205 H01S-003/19

EC - H01L-029/205

H01L-033/00C4D3C H01L-033/00G3B2

H01S-005/323B4

T01S-005/02H2 T01S-005/042E

PCL - ORIGINAL (O): 257190000; CROSS-REFERENCE (X): 257E29091 257E33028 257096000 257097000 257103000 372043000 372050000

DT - Basic

CT - US5218216; US5247533; JP2229476 H; JP4297023 H; JP5183189 H

STG - (A) United States patent

AB - A semiconductor device comprises a single crystal substrate, a nucleus formation buffer layer formed on the single crystal substrate, and a lamination layer including a plurality of Al1-x-yGaxInyN (0</=x</=1, 0</=y</=1, x+y</=1) layers laminated above the nucleus formation buffer layer. The nucleus formation buffer layer is formed of Al1-s-tGasIntN (0</=s</=1, 0</=t</=1, s+t</=1) and is formed on a surface of the substrate such that the nucleus formation buffer layer has a number of pinholes for control of polarity and formation of nuclei. A method of fabricating a semiconductor device comprises the steps of: forming, above an Al1-x-yGaxInyN (0</=x</=1, 0</=y</=1, x+y</=1) semiconductor layer doped with a p-type dopant, a cap layer for preventing evaporation of a constituent element of the semiconductor layer, the cap layer being formed of one of AlN in which a p-type dopant is added and Al2O3, subjecting the semiconductor layer to heat treatment, and removing at least a part of the cap layer.

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PN - 🏗 US5656832 A 19970812 [US5656832]

AP - US40086595 19950308 [1995US-0400865]

ACT - ,

19950501 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-

K; EFFECTIVE DATE: 19950405

19950501 US/AS02-A ASSIGNMENT OF ASSIGNOR'S INTEREST OWNER: OHBA, YASUO; EFFECTIVE DATE: 19950405

19950501 US/AS02-A ASSIGNMENT OF ASSIGNOR'S INTEREST OWNER: HATANO, AKO; EFFECTIVE DATE: 19950405

UP - 2003-22

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PN - 🖪 US5909040 A 19990601 [US5909040]

TI - (A) Semiconductor device including quaternary buffer layer with pinholes

PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)

PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]

IN - (A) HATANO AKO (JP); OHBA YASUO (JP)

AP - US86605697 19970530 [1997US-0866056]

FD - C.I.P. of US400865 19950308 [1995US-0400865]

Continuation-in-part of: US5656832

PR - US86605697 19970530 [1997US-0866056] JP3815794 19940309 [1994JP-0038157] JP70495 19950106 [1995JP-0000704] US40086595 19950308 [1995US-0400865]

IC - (A) H01L-031/0304 H01L-033/00

EC - H01L-029/201 H01L-029/205 H01L-033/00C4D3C H01L-033/00G3B2

PCL - ORIGINAL (O): 257190000; CROSS-REFERENCE (X): 257E29090 257E29091 257E33028 257013000 257096000 257097000 257103000 372044000 372050000

DT - Basic

CT - US5006908; US5239188; US5247533; US5578839; US5587593; US5665986; US5684309; US5729029

Kamp et al Mat. Res. Soc. Symp. Proceed. vol. 395 "GaN in Materials"

"NH.sub.3 in GaN" pp. 135-139, Dec. 1995.

Van der Stricht et al Mat. Res. Soc. Symp. proceed. vol. 395 "GaN in Materials" "The Effect of a GaN . . . Deposition" pp. 231-236, Dec. 1995.

STG - (A) United States patent

AB - A semiconductor device comprises a single crystal substrate, a nucleus formation buffer layer formed on the single crystal substrate, and a lamination layer including a plurality of Al1-x-yGaxInyN (0</=x</=1, 0</=y</=1, x+y</=1) layers laminated above the nucleus formation buffer layer. The nucleus formation buffer layer is formed of Al1-s-tGasIntN (0</=s</=1, 0</=t</=1, s+t</=1) and formed on a surface of the substrate with an average film thickness of 5 nm to 20 nm such that the nucleus formation buffer layer has a number of pinholes for control of polarity and formation of nuclei. The pinholes are formed among loosely formed small crystals of Al1-s-tGasIntN (0</=s</=1, 0</=t</=1, s+t</=1).

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PN - 🛱 US5909040 A 19990601 [US5909040]

AP - US86605697 19970530 [1997US-0866056]

ACT - 19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-

K; EFFECTIVE DATE: 19970521

19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: OHBA, YASUO; EFFECTIVE DATE: 19970521

19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: HATANO, AKO; EFFECTIVE DATE: 19970521

UP - 2003-22

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